May 1953

THE

Johns Hopkins

MAGAZINE

Turtle Derby

SEE PAGE 18

Americans Are Rolling Up Their Sleeves!

YES, ALL KINDS OF PEOPLE ARE GIVING BLOOD SO THAT OUR WOUNDED MAY LIVE!

● Today, the blood of a Boston bookkeeper may be flowing through the veins of a wounded kid from a Kansas farm... the blood of a pretty Southern housewife may have saved the life of a grizzled leatherneck. For, blood is blood, a God-given miracle for which there is no substitute . . . and when a man's life hangs in the balance and blood is needed, there is nothing else to take its place!

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But—

WHAT HAPPENED TO THAT PINT OF BLOOD YOU WERE GOING TO GIVE?

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THE Johns Hopkins MAGAZINE

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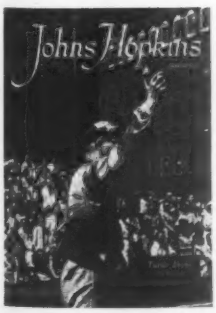

THE COVER

For one day each summer, the Johns Hopkins Hospital becomes host track for one of the oddest races that man has devised—a turtle derby. This year the Derby will be held on May 20 and, to give fans some idea of what to expect, The Johns Hopkins Magazine presents some scenes from the 1952 festivities, in a picture story beginning on page 18. On the cover, a "jockey" triumphantly lifts the winning turtle aloft.

PHOTOGRAPH BY WERNER WOLFF

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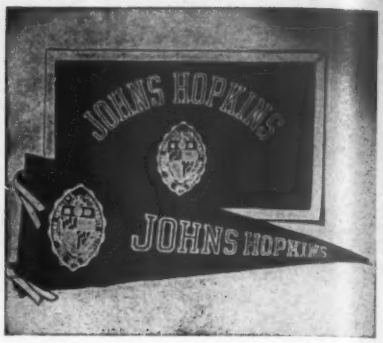

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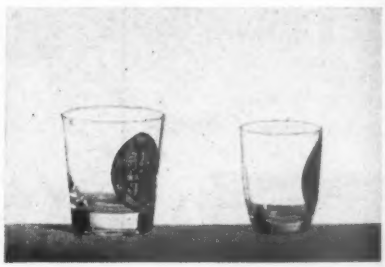

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EDITORS' NOTES

With signs of approaching summer breaking out all over, it seems a bit unseasonal of us to be thinking this month about a snow-covered mountain range. But due to a letter which we have on our desk, that is precisely what we must do.

Two months ago, when wintry winds were still whistling around our office, we published an article by Patrick Skene Catling called "Probers of the North," which told of research at Johns Hopkins' Arctic Research Laboratory at Point Barrow, Alaska. Describing the flight from Fairbanks to Point Barrow, Mr. Catling wrote:

"You will soon come to the Brooks Range. . . . Below, through its passes (inaccessible, as white men measure accessibility), wander primitive Caribou Eskimos, hunting the migratory animals from which they get their name. . . ."

Shortly after the article appeared, we received a note from a reader who is with the U. S. Geological Survey:

"Brooks Range is by no means inaccessible to white men, even with primitive methods of transportation such as the dog team and the canoe. There were no airplanes in interior Alaska in 1924, but I nevertheless traveled from Tanana, on the Yukon, to Point Barrow without serious difficulties or mishaps. . . . The Brooks Range and its foothills constitute one of the easiest regions in Alaska for a man to traverse on foot. Unfortunately, it is *too* easy to travel. The airplane companies are now busily engaged in landing parties of hunters, consisting of retired brewers and real-estate operators equipped with high-powered guns, to exterminate the sheep and other game. . . .

"There are no 'Caribou Eskimos.' Eskimos no longer live in the Brooks Range, though we saw abandoned villages to prove that they formerly ranged that far south. They now live along or close to the Arctic Coast.

"There are no caribou in the Range, the principal game being mountain sheep. The barren-land caribou range from the northern slopes of the Range northward to the Arctic; the woodland caribou range from the southern slopes of the Range southward to the Pacific, excepting the Alaska and Coastal Ranges."

JACOB L. HAIN

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Somewhere in their lives, many people meet a stress which causes mental breakdown. Now, as a result of long studies of the breakdown process, a promising test is being developed for

Spotting Potential Neurotics

MENTAL illness in the United States has grown to alarming proportions in recent years. This fact alone has been sufficient to warrant its recognition as one of the nation's foremost health problems. But equally disturbing has been the circumstance that once a person has suffered a severe mental breakdown, it is extremely difficult to effect a complete cure. Once a severe neurosis is under way, the course of its development often appears to be irreversible—even though, after an initial breakdown and treatment, the patient may seem to be well again. In many cases, psychiatrists have seen serious symptoms of mental illness reappear, long after an apparent recovery has taken place.

A few months ago Dr. William Horsley Gantt, of Johns Hopkins, announced that his laboratory experiments showed clearly that any disturbance of the nervous system left permanent traces. With some types of illness the neurosis was indeed irreversible, with the most serious symptoms developing long after the breakdown itself.

While hardly a signal for general rejoicing, Dr. Gantt's announcement did clearly establish this important fundamental fact: that if the present destructive tide of mental illness is to be turned back, the major hope lies not in finding a cure for neuroses that have already developed, but in finding a way to prevent them from getting started in the first place. And now, on the basis of additional experiments which Dr. Gantt has conducted, it is possible to state that a practical means of tackling this aspect of the problem appears to be close at hand.

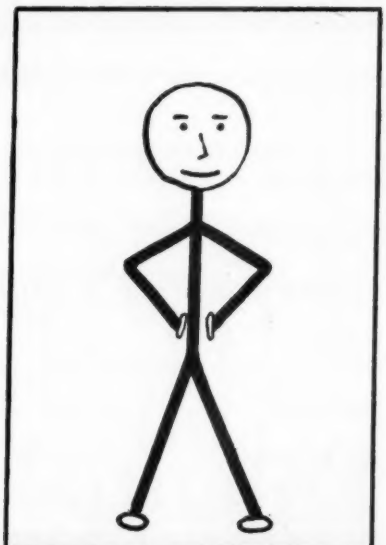
Dr. Gantt and his associates have developed a test by which they have been able to spot, among groups of normal animals, the *potential* neurotics —those which, when they encounter certain severe stresses in their lives, can be expected to break down. If Dr. Gantt's tests can be adapted to human beings—and there is no reason to think they cannot—then ultimately it should be possible to detect potential neurotics in the population before their breakdowns occur. Once this is possible, preventive psychiatry could be applied to help patients *avoid* breakdowns; to protect them and aid them in adapting themselves to the stresses they may expect to meet in a normal lifetime.

IT is not hard to see how far-reaching the significance of such a development would be. Today, for example, it is fairly routine to give physical examinations to school children. As one result, those with weak hearts are often detected in time to protect them from over-exertion and the permanent damage which might result. Someday a conditional-reflex test for spotting potentially neurotic persons may be equally routine, enabling doctors to help such people work out programs for happy and useful lives, much as a safe program can be worked out for the child who is found to have a weak heart.

Another important area of need is spotlighted by America's experience with the phenomenon of battle fatigue. Present preinduction examinations for men selected for military service are more complete than formerly, and include a psychiatric examination. The military services make

Continued on page 8
Overleaf: progress of neuroses

TODAY: mental breakdown

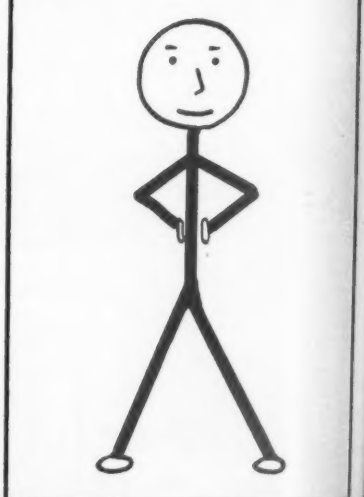


1 Here is an apparently 'normal' man, who is living a normal life.

2 In the course of his day-to-day existence he is subjected to a heavy strain.

SOMEDAY: susceptibility detected, breakdown prevented

1 Here is another seemingly 'normal' man, leading a normal life.

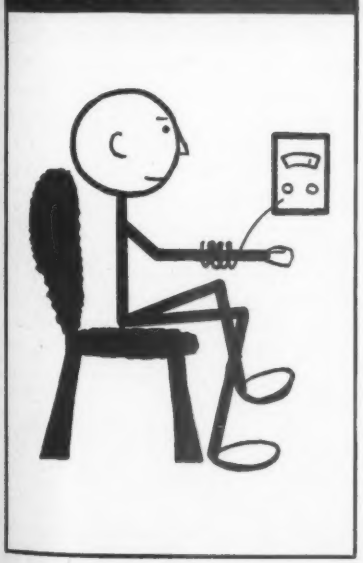


3 As a result of this strain, he suffers a severe mental breakdown.

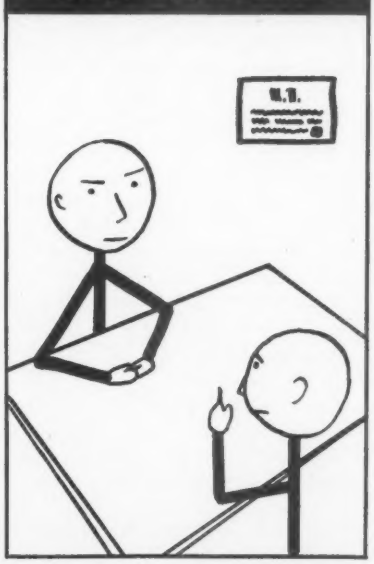
4 He is hospitalized, is given treatment, and appears to be cured.

5 Perhaps years later, he again undergoes strain, and his old symptoms reappear.

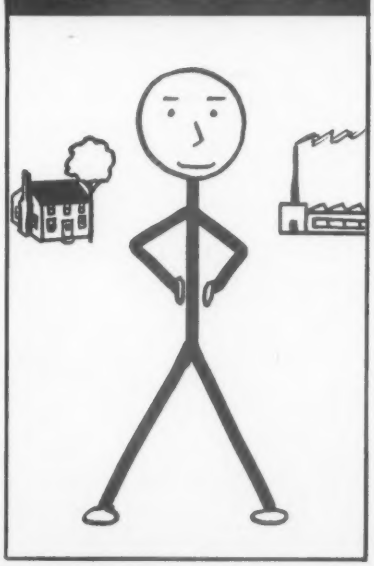
2 Routine conditional-reflex test indicates he is likely to break under strain.



3 With psychiatrist's guidance, man works out program to prepare against stress.



4 And as a result, he is helped to live a happy, useful, and breakdown-free life.



a great effort to find, and weed out, those individuals who are mentally or physically unfit. Yet a distressingly high proportion of the patients in service and veterans' hospitals are victims of "combat shock." Battle did not wound them physically. But it put upon them a greater strain than they could bear. Unhappily, with the techniques now known, their susceptibility to breakdown could not be recognized at the preinduction examinations, or even after their training-camp experiences—while there still would have been time to assign them to posts where the strains would not be too great.

Dr. Gantt has made no attempt as yet to adapt his preventive test to humans. His belief in the possibility of such a development has grown out of observations made during laboratory work with normal and neurotic dogs. For two decades he has been compiling records based on conditional-reflex experiments, in one of the few long-term studies made of the chronic neurotic.

THE application of scientific experimentation to psychical life is relatively new, because there were those who argued (as some still argue) that the mind, unlike all other human parts, cannot be charted with objective tests.

It was Ivan Petrovich Pavlov, pioneer Russian physiologist, who discovered fifty years ago that mental and nervous impulses could be detected by bodily reactions. Dr. Gantt worked with Pavlov for seven years, experimenting with the Pavlovian method of measuring salivary and gastric secretions to determine psychical changes. In 1929 Dr. Gantt returned to this country to join Dr. Adolf Meyer and to establish the new "Pavlovian Laboratory" at Johns Hopkins. He soon abandoned the secretory method to develop a more delicate measure, that of heart rate, which had been used with patients by Dr. John C. Whitehorn, present chief of the Hopkins psychiatry department. At present Dr. Gantt is trying to expand the charting to include measurement of blood pressure under stress.

The actual mechanics of carrying out the tests on animals are delicate and demanding. Because it has been found that companionship eases fear and minimizes the effect of stress, the tests must be performed without any humans near the animals. (Here is experimental proof of the theory that companionship gives strength against fear, as indicated in many instances of battlefield courage.) The animal is placed alone in a "camera," a soundproof, windowless room which gives nearly complete isolation. He must be trained to stand quietly and not to kick off the instruments which convey his cardiac and respiration rate to observers.

Once an animal has been trained to camera behavior, the conditional reflex tests can be started. Each subject is first examined to determine his normal heartbeat and respiration rates, for these vary greatly with individuals. With these established, the tests are started and changes are compared against the individual's normal.

WHEN two of the dogs, Connie and Draft, were brought to the laboratory kennels, they appeared to be equally normal animals. They romped in the kennels, were friendly to their human masters, barked and tussled with other dogs in a completely natural manner. Careful observation revealed no important differences between them.

After a few weeks they were started on conditional reflex tests, consisting of a signal bell followed by a mild electric shock. In this test the dog was placed with one forepaw resting on an electrode; the experimenter rang a bell and then, after a short interval, passed a mild current through the electrode. The reflex was formed when the animal learned the meaning of the sequence and lifted his foot when he heard the bell, thus avoiding the shock.

The second part of the test consisted of ringing another bell, of a different tone, which was *not* followed by shock. The dog had to learn to differentiate between the two bells, lifting his foot from the electrode when he heard the first signal but not moving when he heard the second.

Connie quickly understood the first part of the test and formed the lifting reflex; he soon learned also to differentiate between the two bells, and he remained calm throughout. His breathing was quiet and showed little excitement, even in the early stages before he learned to avoid the shock. His heart rate increased each time he heard the signal, especially during the period before he could differentiate, but it reflected no unusual disturbance.

Draft, on the other hand, became excited as soon as the tests started. He took much longer than Connie to form the reflex and also to learn the difference between the two bells. His breathing speeded up until he was almost panting, and his heart rate was very rapid. He was quieter after he learned to differentiate, but he never took the tests as calmly as did Connie.

These first tests on Connie and Draft were made at Hopkins in December of 1940. Throughout his life Connie was well balanced, able to take new events calmly. Draft, however, was always excitable and often showed instability in the face of unusual situations. Similar observations have been made on a number of dogs, some raised from birth under controlled conditions in the laboratory and some brought in when they were several years old. In virtually every case the response of the dogs to the relatively simple test which Connie and Draft took has proved a precise index to the dogs' nervous stability, as evidenced by their subsequent history.

So exact is this index that Dr. Gantt can now predict, from these preliminary findings, whether or not an animal will be able to stand up under severe strain. Further, he is able to predict *how* each individual animal will break down. The validation of these predictions points the way, he feels, toward a similar test to determine the stability of humans, providing the first step toward preventing breakdown and neuroses.

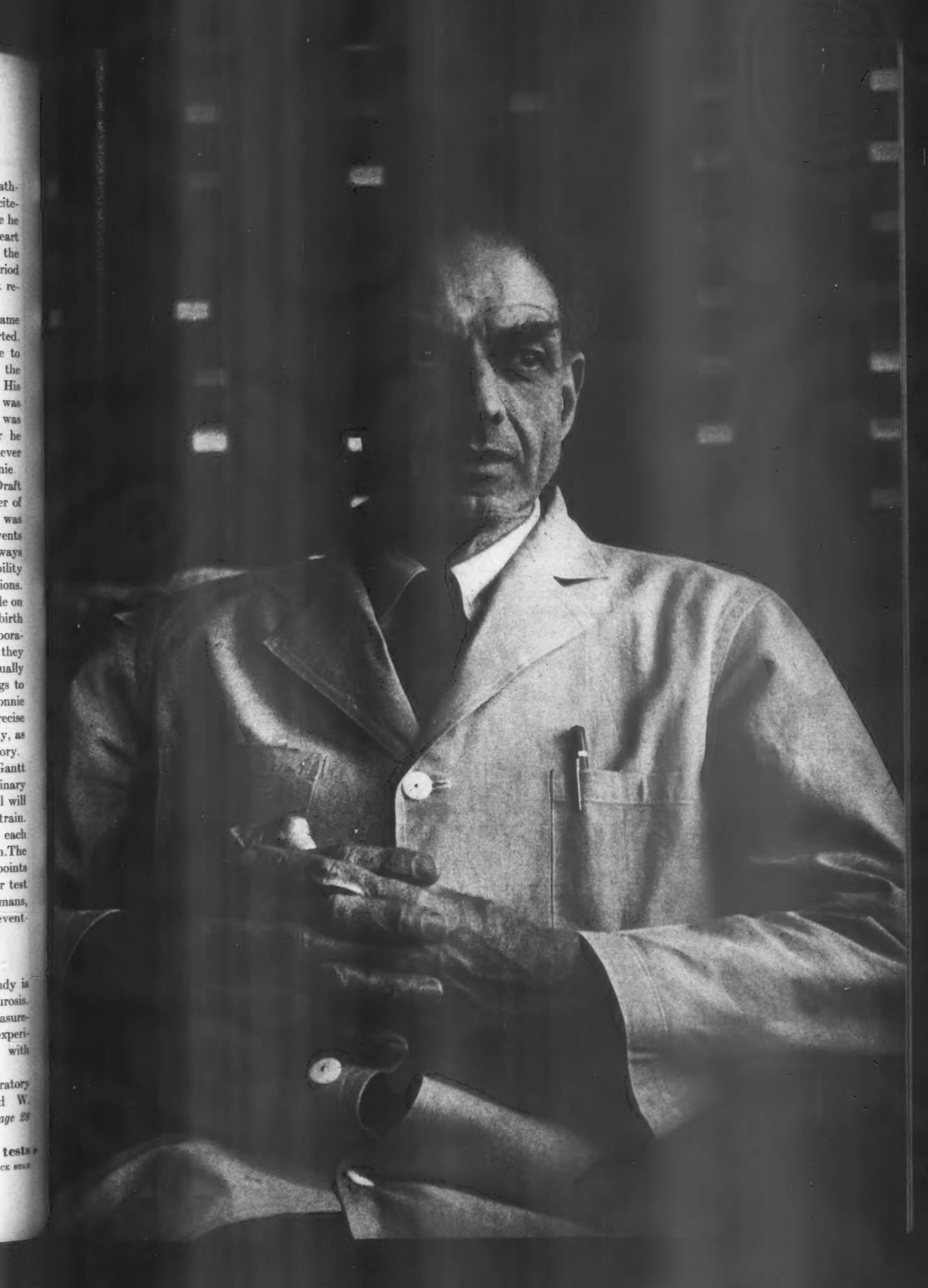
THE essence of Dr. Gantt's study is the formation and progress of a neurosis. But his success with cardiac measurement of reactions has led to many experiments not directly connected with psychotic illnesses.

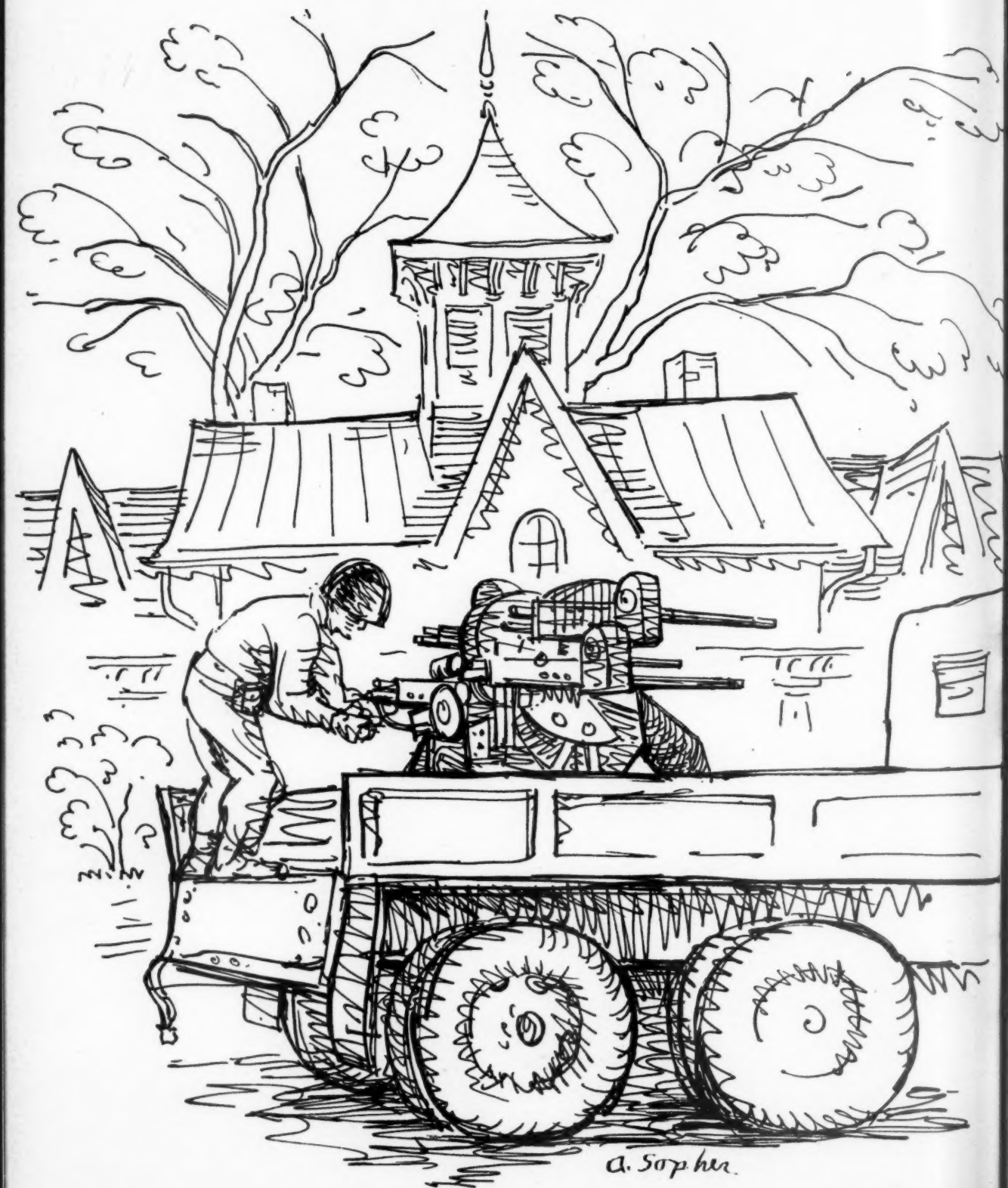
Presently, for example, two laboratory workers, J. M. Stephens and W.

Continued on page 28

Dr. W. Horsley Gantt, developer of the Gantt tests

WERNER WOLFF, BLACK STAR




A. Sopher

Officers' Training

ROTC's job: to help build a military-leadership reserve

Drawings by AARON SOPHER

ALONG with his diploma, issued by direction of the president of his university, many a young man graduating from college next month will be presented with another significant piece of paper, issued by direction of the President of the United States: a commission as officer in a branch of the armed forces.

It will be the final step in a process which began four years ago, when the student first entered college and elected to take, along with his regular academic course, training in the Reserve Officers' Training Corps on his campus. At the end of two years' basic instruction, he had the option of either dropping out or—if his record had been acceptable—continuing into a second, and far more advanced, two-year training phase.

Sixty members of the Class of '53 at Johns Hopkins next month will have traveled the full four-year route and, barring last-minute flunk-outs, all but two will become second lieutenants in the Army reserve. (The two have been offered, and have accepted, commissions in the Regular Army as the result of particularly distinguished work.) Over the ensuing year, they will be called to active duty in the Infantry or, in the case of engineering students, the Corps of Engineers.

For nearly forty years, the ROTC has been training college men for leadership roles in America's armed forces, and the policy has paid off in wartime and is paying off now by providing a well-qualified body of reserve officers, available in times of military need. In the present cold-war period, ROTC trainees are draft-deferred—an arrangement which both permits them to complete their college educations and assures the armed forces of a steady, well-trained supply of officers each year to replace those being mustered out.

Heavy equipment, like the quadruple fifty-caliber anti-aircraft gun on opposite page, is brought to campus from Army posts and shown to students.

As part of ROTC course at Johns Hopkins, engineering students assemble a scale model of floating bridge, which has pneumatic rubber pontoons (*right*).

OFFICERS' TRAINING
Continued

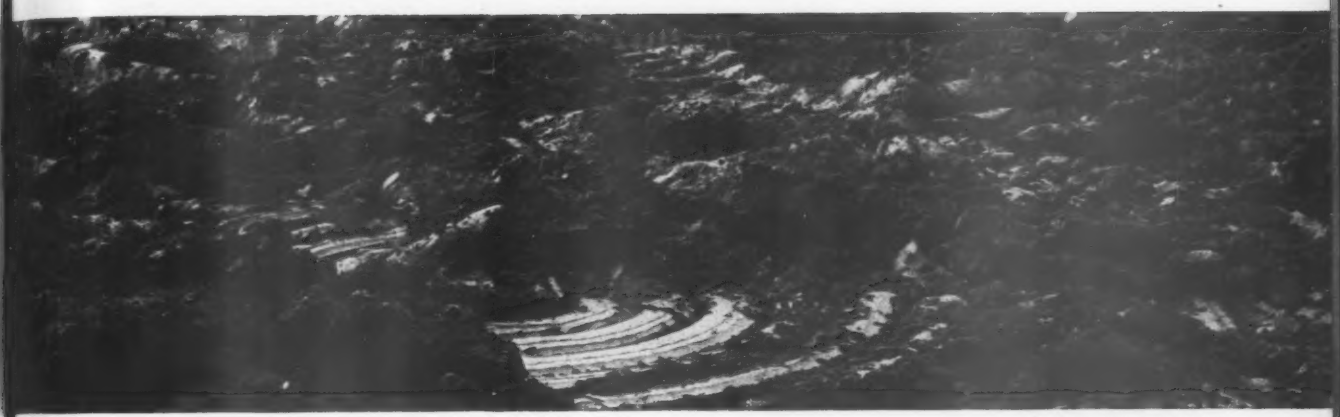
Two students catch up on drill practice at lunch hour. Uniforms are worn at formal drills. About a third of Hopkins students join ROTC.

Each ROTC student is assigned his own rifle and is responsible for its care and cleaning (*above*). Army staff supervises regular drills, inspections.

Marching and marksmanship

Rifle team practices on a small-bore range in Hopkins ROTC building. The man at right, shooting left-handed, uses rifle equipped with special sights.

The Wet Earth



TAUBERT, SEABROOK FARMS

On its strength or weakness may depend the success of military campaigns and farming operations. Now scientists are learning to predict its eccentricities

Not many weeks ago, the problems of spring planting lay heavy on the minds of farmers in many parts of the United States. In sheds and under waterproof tarpaulins, tractors stood ready to haul plows across the fields and break ground for the first crop. In dry barns, stores of seed had been piled up, ready to be put into the earth when the time was right.

It was a period of anxiety for farmers, as it is every year. Many questions were in their thoughts as they contemplated the season ahead; as they watched the snows melt and the spring rains fall. When the best planting time came, would they recognize its signs? Would they put their plows to the earth when its condition was at its best? An error could be costly; putting heavy equipment on earth that is too wet may compress the soil and alter its structure so seriously that later in the season it may not sustain crops as it should. But the farmers knew that errors in assessing the "bearing strength" of soil—its ability to support heavy objects—are not infrequent, even for experienced men whose judgment of weather and soil conditions is keen.

At the same time, a military commander might have been on the eve of a major offensive. For months, perhaps, he had laid plans. He had assembled the large and heavy machines of war: trucks, mobile guns, bulldozers, tanks. He had massed his troops—perhaps drawing them, in a carefully calculated risk, from battle lines scores of miles away. He had briefed them, trained them, oriented their spirits toward this day.

But as he restudied his battle schedule, the commander knew that there were some things which even the best plans could not control. Such as the weather: close to H-hour, perhaps, it might rain.

The rain might stop well ahead of the time for attack. But when the troops begin to move forward they might find their feet growing heavy with clinging mud, their tank support bogged down, their heavy guns unable to move into position across the wet earth.

The commander knew that it *might*

happen. But he could do little about the possibility except pray that it would not.

Because the little-understood action of moisture on soil can so crucially affect man's works in war and peace, scientists today are beginning to study it intensively. They cannot hope to control excess soil moisture on a large scale. But perhaps, as with other unconquerables of man's environment, they may learn how to avoid its hazards.

This is the objective of a group of researchers at the Johns Hopkins Laboratory of Climatology at Seabrook Farms, New Jersey: to learn more than is now known about the relation of excessive moisture in the soil to climatic factors for which data are readily available, so that the occurrence and duration of such excessive moisture can be estimated.

CLIMATOLOGISTS—including those at the Johns Hopkins laboratory—have been accustomed in the past to dealing primarily with the soil's moisture in relation to plant growth, being principally concerned with how such growth is affected by water-supply deficiencies.

This side of the moisture-and-soil problem undoubtedly is still the more important. But now the Hopkins climatologists are looking at the other side, too: those times when the soil is saturated, or nearly so, and has more than enough water for plant growth. They are interested in this range of moisture because it affects the mobility of men and machines over the ground.

And being climatologists—whose studies are of climate (a long-term phenomenon) rather than of weather (a comparatively short-term, day-to-day phenomenon which takes place *within* the over-all climatic structure, so to speak)—the Hopkins scientists are interested in the relationships of soil, rainfall, and temperature over lengthy periods of time. It is important to understand this in order to understand the rather startling goal of their work:

They hope to find methods of determining the probable condition of the ground in any part of the earth, at any date on the calendar, months and years in advance.

Such predictions of ground conditions would actually be statements of climatic probabilities, based on studies of long-range climate patterns. They would not be as precise as the predictions of astronomers, of course, who can work out the phases of the moon, for instance, centuries in advance; with climate there are too many day-to-day weather fluctuations, within the over-all climate patterns, for absolute precision. But with simple adjustments, made at the last minute to compensate for the weather fluctuations, forecasters should be able to tell the farmer and the military man as much about tomorrow's conditions *beneath* the surface of the ground as about the atmospheric conditions above it.

THE basic problem for scientists who want to know the effects of moisture on soil—and, eventually, the effects of this on the soil's ability to support weights and to sustain plant life—is to find a way of telling how much water is in a particular plot of land at any time. Doing this is not as easy as it may sound.

Water is *deposited* on the land by rainfall. It is also, in ways which will be discussed in a moment, constantly being *withdrawn* from the land. Subtract the withdrawals from the deposits and, as in a bankbook, you have the current balance: the amount of water still in the soil. Except in times of extreme drought, there is always such a balance on hand.

The first part of the problem—knowing how much water has been deposited in the soil up to any given time—is relatively easy. Rainfall records are available from all over the world; even the Iron Curtain countries exchange precipitation data with nations outside. But the second part—knowing how much water has been *lost* by the soil—is far more difficult. No records are kept which give the needed information.

But the Johns Hopkins climatologists think they can work out the problem nevertheless.

WHEN rain falls, the ground holds on to the water at first. Capillary action of the soil works against the pull of gravity, not letting the droplets of water run down to the water table beneath.

But as the rain continues, the ground becomes soaked. Much as a blotter becomes so saturated with ink that it can sop up no more, the ground reaches "field capacity"—all the water which, by capillary action, it can hold. From then on, any rain which falls becomes excess moisture in the ground. Some of it runs off in rivulets on the earth's surface, seeking streams and rivers to carry it to the sea. Some of it seeps directly down through the soil to the subterranean level at which the water table lies.

It takes time, however, for the excess moisture to be drawn off in these ways. Meanwhile, while the process is running its course, the earth is excessively wet.

For anyone who must work upon the ground and depend upon it to give

SIGNAL CORPS PHOTO

In today's mechanized warfare, success or failure may depend upon ground conditions, now often unpredictable. Above, a World War II truck convoy bogs down in sticky mud on the Ledo Road in Burma.

traction to equipment and men, this is a critical time. The soil is incapable of supporting heavy weights. Its bearing ability and its "tractionability" are slight. It is here that the farmer or general may easily misjudge and put his machines into action before the land is ready to hold them. Inevitably, they will bog down. And for the farmer, something even worse may occur: their weight may compress the wet earth and so alter its structure that its ability to sustain crops is weakened.

The ground is constantly losing, in addition, the water which it has been holding by capillary action. This loss occurs in two ways: by evaporation into the atmosphere, which dries the surface layers of the soil; and by transpiration, which is the use of water by plants. The latter is the more important, for it is thus that crops, through their root systems, draw upon the soil's water supply for sustenance and growth. And by so doing, they remove water from the whole depth of the "root zone" of the soil. Evaporation and transpiration occur simultaneously. To describe their dual soil-drying action, climatologists have invented the combination term, "evapotranspiration."

Actual evapotranspiration is known to vary with humidity, temperature, wind, and soil moisture. It varies, too, with the type of vegetation growing upon the land (some plants use more water than others) and with the stage of growth of the vegetation (plants use more water at some stages of their growth than at others). But to measure evapotranspiration, it would be necessary to connect all these factors quantitatively. This, unfortunately, cannot be done.

To circumvent this difficulty, Dr. C. Warren Thornthwaite, director of the Hopkins Laboratory of Climatology, has introduced the concept of *potential* evapotranspiration: the evapotranspiration which will take place from an area covered by vegetation when there is no deficiency in soil moisture. The only statistics he needs to know are the temperature and latitude—both easily obtained for all parts of the world. Dr. Thornthwaite has also devised a bookkeeping procedure by which, taking precipitation into account, it is possible to keep a "ledger" showing the deposits and withdrawals of water in the soil. With some simplifying assumptions, he can determine, from this ledger, the amount of capillary water which is present in the soil at any time.

This alone provides the information needed in most studies of soil moisture—those dealing with plant growth and water's effects on it. But now that the climatologists are extending their studies to soil moisture as related to tractionability, they must also know how much *non*-capillary water is likely to be in the ground at any time; i.e., that water which is in the process of seeping down through the soil to the water table or running off the surface.

Dr. John R. Mather, a climatologist, and Dov B. Krimgold, a hydrologist, both of the Hopkins laboratory, are now developing methods of estimating this. Using readily available figures—temperature, precipitation, and infiltration capacity (an important soil characteristic)—they must find a means of determining what happens to the total amount of moisture that falls on the ground: how much of it, under conditions of excess moisture, is disposed of through evapotranspiration and how much of it is lost through gravitational processes.

An instrument called the evapotranspirometer, developed by Dr. Thornthwaite, is one of the tools with which Dr. Mather and Mr. Krimgold are tackling the problem. The evapotranspirometer was first devised to measure the water requirements of plants, and most of the instruments now in use at the laboratory and elsewhere

Continued on page 29

By MORRIS A. SOPER

A LAYMAN LOOKS

A distinguished jurist takes issue with an article

ANYONE who takes even a cursory glance at the academic world today perceives at once that an uncomfortable feeling prevails amongst the professors that they are being made the subject of unjust attack as a class, and that some of the more aggressive teachers are being labeled as traitors or at least disturbers of the public peace. Striking evidence of this unrest was manifest in an article published last year in *The Johns Hopkins Magazine* by a member of the University faculty whose high scholarship and good will are acclaimed by teachers everywhere. It was entitled "The New Authoritarianism," and its theme was that a creeping paralysis is setting in, which has begun to infect our schools, our government, and the general public itself.

There is undoubtedly some basis for the professors' discomfort, but in my judgment little or none for the argument set forth in the article.

Some wild, unjust, and cruel accusations have been made by misguided persons or self-seeking partisans, and they are hard to take. Yet, without minimizing the injustice of the attacks, I greatly doubt whether anything more virulent or malignant has been said than the things which adventurers into the unknown have usually had to suffer in the past. The professors boldly and rightfully claim the proud position of discoverers and distributors of the truth, but they must learn to take the bad with the good and to accept the pains that are always inflicted upon those who disturb the present order and the persons who are entrenched therein. It has always been so, from Christ to Galileo, from Galileo to the teachers who dared to espouse the teachings of Darwin and to offend established beliefs.

MOREOVER, not a few professors are devotees of the shock system. They love to say a new thing in an arresting way, and they take an unholy pride in the discomfitures which they inflict. They seem to think that their attitude is so right that the walls of custom and prejudice should fall down as soon as they blow their horns. And they can exchange epithet for epithet with astonishing ease.

A few years ago one of the most belligerent of university professors, A. M. Schlesinger, Jr., published an article entitled "The Right to Loathsome Ideas," referring to communism and maintaining the position that however violently one disagrees with the views of another, he must be given the right of self-expression. True enough. But if the other has loathsome ideas and insists upon spreading them in public, he must be ready and willing to be considered a loathsome person. If the professor leaves the cloistered circle and walks abroad with a wagging tongue, he is likely to hear something that will hurt his feelings.

THE great and important truth remains, however—whether the professors are being unjustly accused or not—that there is no actual basis for

AT THE PROFESSORS

published last year in The Johns Hopkins Magazine

Judge Soper, who received the Bachelor of Arts degree at Johns Hopkins in 1893, has had a long and distinguished career as United States Circuit Judge. The opinions expressed in his article, first delivered as the Johns Hopkins Commemoration Day address this year, have already stirred a lively controversy in and out of academic circles, and The Johns Hopkins Magazine invites its readers to join in. The previous article to which Judge Soper refers, "The New Authoritarianism," was written by Professor George Boas and appeared in our May, 1952 issue, of which a limited number of copies are still obtainable from the office of the magazine at the regular single-copy price of fifteen cents.

the fear that authority is gradually crushing out independent and creative thinking in our country. A casual survey by the everyday man demonstrates this fact.

No authority has stilled the creative effort, not to say the eccentricity, of modern music and modern art. How we old-fashioned folk wish it were not so! How grievously we have suffered in the concert hall and in the art gallery, where every maestro, every museum director, seems determined to show that he does not believe that beauty is an essential part of a work of art. Nobody has killed initiative in this field.

Nor will anyone dare suggest that research has ceased and discovery is rejected in the field of the sciences, exact and inexact. Great foundations, sometimes using funds accumulated by methods distasteful to the professors, have sponsored exploration and research into the cause and prevention of disease; and discoveries so revolutionary and effective have been made that many people live to an unseemly old age and continue to occupy places which younger and more vigorous men are ready, able, and willing to fill. (On this subject I have definite information and am qualified to testify!)

Even in the relatively uncertain field of the law we have witnessed in recent years a profounder change in the interpretation of the Federal Constitution and a more sweeping reform in the procedural methods of the courts than ever before. The vast powers entrusted to administrative tribunals have changed the face of the practice of law. The legal profession is intensely proud of the achievements of the American Institute for the Restatement of the Law in simplifying and harmonizing the principles of law embodied in

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Turtles' Day

Shellbacks run a hot race

On a date thoughtlessly not recorded for posterity, a genius among medical students at Johns Hopkins made an interesting observation. It was about turtles. While turtles are traditionally slow-moving creatures, he noted, there is one situation which causes them to break into a fast trot: getting caught in the hot sun. When they find themselves in such a position, they make haste for the nearest shade.

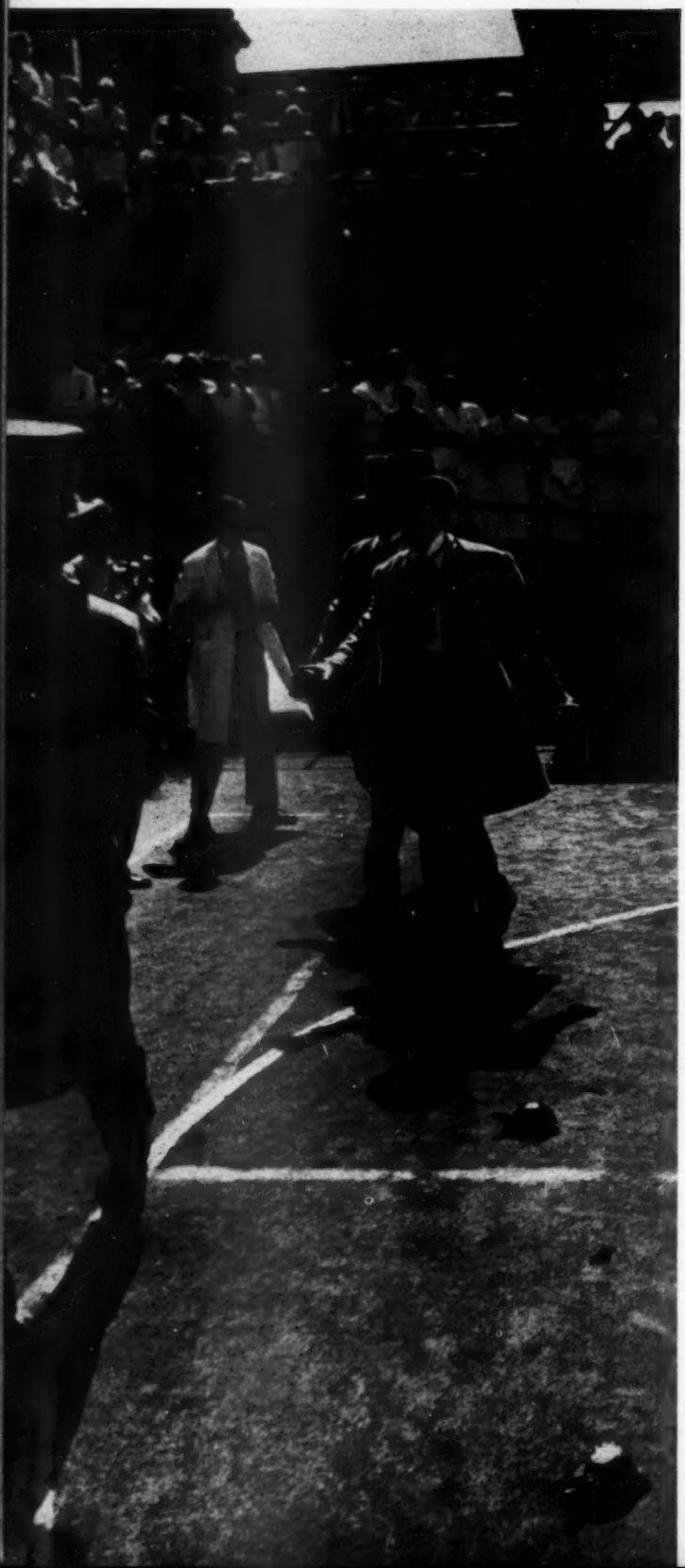
Why not, mused the observant genius, put this behavior to good use? Place a bunch of turtles in a sunny circle not far from a patch of cool shadows, he proposed, and let turtle instinct do the rest. You'll have, said the genius, a race.

So it came to pass than an annual Turtle Derby was established at the Johns Hopkins Medical Institutions, with doctors, nurses, students, and officials entering turtles, gathered from Maryland mud and adjudged fleet of foot, in a great race. As a result, every year at this time a strange excitement pervades the medical institutions as Derby Day nears. Odd signs appear on hospital-corridor walls. Dignified doctors temporarily abandon their reserve. Guarded meetings are held, and darkly secret strategies formed. Johns Hopkins is about to pay homage to the turtle. And by tradition, in the turtle's behalf, only the very best efforts will do, as the photos on these pages show.

From starting point in center of sun-baked ring, turtles run, not walk, to the nearest shade. Record time for covering the course is something like thirty-eight and two-fifths seconds.

PHOTOGRAPHS FOR THE JOHNS HOPKINS MAGAZINE
BY WERNER WOLFF, BLACK STAR

Traveling so fast that even a high-speed camera was unable to "stop" his action (note the blur), winning turtle crosses the finish line. He will be cheered, filmed, feted (*next page*).



Patients, kids join the fun

Fastest turtle is the idol of the day, as photographers immortalize his face on film. *Left*, the finish-line frenzy.

Expressions of bewilderment and amusement mix, as young spectators watch horse- and turtle-play from window sill.

Wheelchair patients can see races from Hospital's porch.

After race, boy ponders age-old biological mystery: why does turtle live in a shell? The turtle declines to answer.

A Johns Hopkins Gazette

AN UNOFFICIAL COMPENDIUM OF FACULTY AND ALUMNI APPOINTMENTS, HONORS, AND ACCOMPLISHMENTS

THE FACULTY

● Among members of the Board of Trustees, John J. McCloy has been elected to the board of trustees of the Rockefeller Foundation.

Benjamin H. Griswold, III, has been nominated as a member of the Board of Governors of the New York Stock Exchange.

● President Detlev W. Bronk has been elected a corresponding member of the French Academy of Sciences. He has also been elected an honorary member of the British Physiological Society.

The honorary degree of doctor of science was conferred on Dr. Bronk by Colby College at a convocation celebrating the completion and occupancy by Colby of its new buildings and campus.

● In the Faculty of Philosophy, William L. Straus, Jr., professor of physical anthropology and formerly associate professor of anatomy at the Medical School, was recently awarded the 1952 Viking Fund Medal and prize. The medal was given for "outstanding achievement" by the Wenner-Gren Foundation for Anthropological Research.

William Weltner, Jr., will be promoted to assistant professor of chemistry in July.

Clarence D. Long, professor of economics, is visiting professor at Columbia University for the current term.

Kemp Malone, Caroline Donovan Professor of English Literature, has been appointed an honorable member of the Royal Danish Academy of Science.

Ernst Feise, research professor and professor emeritus of German, has been named to a John Hay Whitney visiting professorship to Whittier College for the coming academic year.

Sidney Painter, professor of history, has been elected a fellow of the Medieval Academy of America.

Edward Williamson, associate professor of Italian, has been appointed acting chairman of the department of Romance Languages for the 1953–54 academic year.

Philip Hartman will be promoted to professor of mathematics in July.

Walter L. Hughes, Jr., has been appointed associate professor in the McCollum-Pratt Institute. He has been assistant professor of physical chemistry at Harvard University.

Samuel P. Cunningham has been appointed assistant professor of physics for the coming academic year.

Alphonse Chapanis, associate professor of psychology, has been granted a one-year leave of absence to work at Bell Telephone Laboratories. Dr. Chapanis will initiate a program of research on human factors in transmission.

Francis J. Thompson, assistant professor of English writing, has been named professor of English at Rollins College. He will take up his post there in September.

● At the Hospital, LeRoy E. Bates, administrative assistant, has been named assistant director in charge of the out-patient services.

Aileen E. Foley, administrative assistant, has been appointed assistant director in charge of the general administration of the Woman's Clinic.

● In the School of Engineering, Leslie S. G. Kovasznay has been promoted to professor of aeronautics.

● In the School of Medicine, Robert L. Bacon has been appointed associate professor of anatomy for the coming academic year. Dr. Bacon is currently associate professor of anatomy at the University of Tennessee.

E. Cowles Andrus, associate professor of medicine, has been chosen president-elect of the American Heart Association.

Jacob H. Conn, assistant professor of psychiatry, has been elected a charter member and fellow of the American Academy of Child Psychiatry. He has also been appointed to the national board of editors of the *Journal of Clinical and Experimental Psychopathology* and the new *Archives of Criminal Psychodynamics*.

Robert W. Johnson, Jr., will retire this June as professor of orthopedic surgery and orthopedic surgeon-in-charge. A graduate of the Medical School in 1917 and a member of the teaching staff since 1919, Dr. Johnson will continue as visiting orthopedic surgeon. Robert A. Robinson, now at the University of Rochester School of Medicine and Dentistry, will succeed Dr. Johnson as professor and clinical chief.

● At the Applied Physics Laboratory, Clifford D. Firestone has been appointed to the dynamics and analysis group. He was formerly assistant professor of mathematics at Rutgers University.

● The Chesapeake Bay Institute Director Donald W. Pritchard this summer will direct a six-week course in oceanography at the Duke University Marine Laboratory.

THE ALUMNI

J. Boiseau Wiesel, G. '07–'09, '11–'15 (Chemistry), has retired as assistant to the general manager of the Hercules Powder Company's Cellulose Products Department after thirty-seven years with the company.

Howard C. Naffziger, HOUSE STAFF '11–'12, is the new president of the American Surgical Association.

William H. Olmsted, M.D. '13, and Lawrence T. Post, M.D. '13, will receive emeritus status at Washington University in July. Dr. Olmsted will be associate professor emeritus of clinical medicine, and Dr. Post will become professor emeritus of clinical ophthalmology.

Guy T. O. Hollyday, B.A. '14, has been appointed Federal Housing Administrator by President Eisenhower.

Paul J. Wilkinson, G. '13–'14 (Political Economy), has been elected executive vice president of the Title Guarantee Company, Baltimore.

Harold B. Gardner, M.D. '14, has become secretary-treasurer of the Medical Society of the State of Pennsylvania.

Wilder Graves Penfield, M.D. '18, will be given an honorary doctorate of civil law at a July convocation in connection

with Rhodes centenary celebrations at Oxford University.

Samuel S. Glick, B.A. '20, has been elected national president of the Phi Delta Epsilon Medical Fraternity.

Charles I. Silin, G. '21–'25 (French), PH.D. '34 (Romance Languages), has been elected president of the South-Central Modern Language Association.

Herbert N. Eaton, M.A. '23 (Physics), has retired after twenty-five years as chief of the hydraulics section of the National Bureau of Standards.

Benjamin M. Duggar, FEL. '23–'24 (Hygiene), has received the Rho Chi Citation at the Philadelphia College of Pharmacy and Science. Dr. Duggar is a consultant in mycological research at Lederle Laboratories.

Julian D. Tebo, B.E. '24, DR. ENGR. '28, has been named editor of the *Bell System Technical Journal* and of the Bell Laboratories *Record*.

F. Lamar Janney, PH.D. '24 (English) FEL. '24–'25, will retire in July as head of the English department at Hollins College. Dr. Janney has been professor of English at Hollins since 1918.

Louis B. Wright, FEL. '27–'28 (English), will be the commencement speaker at Vanderbilt University this June. He is the director of the Folger Shakespeare Library.

Johannes H. Bruun, PH.D. '29 (Chemistry), is director of research at Hooker Electrochemical Company, Niagara Falls, N. Y.

I-Chin Yuan, M.P.H. '29, DR.P.H. '30, SC.D. IN HYG. '31, has been appointed assistant medical adviser to the United Nations International Children's Emergency Fund. For the last four years he has been director of the World Health Organization Tuberculosis Research Office.

Stuart Zeh Hawkes, M.D. '30, has been elected a trustee of Union College.

James G. McManaway, PH.D. '31, FAC. '31–'35 (English), and John Gielgud recently received the 1953 awards for meritorious service from the Shakespeare Club of New York City.

Thomas Nelson Magill, B.A. '34, will become associate professor of dramatics at Washington University, the appointment to be effective July 1.

Roger A. Lewis, B.A. '34, M.D. '38, FAC. '40–'50, has been appointed visiting professor of pharmacology at the Seth Gordhandas Sunderdas Medical College, Bombay.

Frank L. Hammond, '35–'38 (McCoy), has been elected assistant vice president of the Safe Deposit and Trust Company of Baltimore.

John H. Curtiss, FAC. '35–'36 (Mathematics), has been named visiting lecturer in the Division of Applied Science, Harvard University, for the present term. He is a member of the Institute of Numerical Analysis, the National Bureau of Standards.

Homer A. Hamm, PH.D. '36 (Chemistry), has been appointed director of research and product development for Stone Container Corporation's corrugated-container plants and paper mills.

James K. Luntz, B.S. '41, has been named vice president and director of Luntz Iron and Steel Company, Canton, Ohio.

Marcolino G. Candau, M.P.H. '41, has been nominated as the next director-general of the World Health Organization. He has been assistant director of the Pan American Sanitary Bureau, WHO.

John T. Mendenhall, FAC. and HOUSE STAFF, '41–'42 (Pathology), has been appointed associate professor of surgery at the University of Wisconsin. Dr. Mendenhall is chief of surgery at the Veterans Administration Hospital in Madison.

Robert B. Anderson, RESEARCH ASSISTANT '42–'44 (Chemical Engineering), has been awarded the Ipatieff Prize of the American Chemical Society, in recognition of his work in pioneering the development of chemicals and synthetic fuels from coal products for the U. S. Bureau of Mines.

Gustave W. Andrian, PH.D. '46 (Romance Languages), has been named associate professor of Romance languages at Trinity College, Hartford.

William H. Muller, Jr., FAC. and HOUSE STAFF '44–'46, '48–'49 (Surgery), was selected for his work in cardiac surgery as one of America's "Ten Outstanding Young Men of 1952" by the U. S. Junior Chamber of Commerce.

Louis Jacobs, M.P.H. '47, has been named superintendent of the National Training School for Boys, Washington.

James A. Campbell, FAC. '47–'48 (Surgery), has resigned as dean of the Albany Medical College to become chairman of the department of medicine, Presbyterian Hospital, Chicago.

Fritz M. Hessemer, B.E. '48, has been appointed superintendent of the new plant of the S. Morgan Smith Company, turbine manufacturers of York, Pa.

BOOKS

W. Norman Brown, B.A. '12, PH.D. '16 (Sanskrit), G. '19–'22, FAC. '21–'22, '25–'26, FEL. '24–'25: *The United States and India and Pakistan.*

Robert Hazel, M.A. '51 (Writing), G. '51–'52: *The Lost Year.*

Henry Carrington Lancaster, PH.D. '07 (French), FAC. '19–'53, RESEARCH PROFESSOR AND PROFESSOR EMERITUS OF ROMANCE LANGUAGES: *French Tragedy in the Reign of Louis XVI and the Early Years of the French Revolution, 1774–1792* (Johns Hopkins Press).

James C. McLaren, ASSISTANT PROFESSOR OF ROMANCE LANGUAGES: *The Theatre of André Gide: Evolution of a Moral Philosopher* (Johns Hopkins Press).

Roy Harvey Pearce, PH.D. '45 (English), FAC. '44–'45: *The Savages of America* (Johns Hopkins Press).

Philip W. Thayer, FAC. '50–'53, PROFESSOR OF INTERNATIONAL LAW AND DEAN OF THE SCHOOL OF ADVANCED INTERNATIONAL STUDIES, editor: *Southeast Asia in the Coming World* (Johns Hopkins Press).

Earl R. Wasserman, PH.D. '37, ASSOCIATE PROFESSOR OF ENGLISH: *The Finer Tone: Keats' Major Poems* (Johns Hopkins Press).

Stewart Wolf, B.A. '34, M.D. '38, and Harold G. Wolff, FAC. '30–'31 (Psychiatry): *Headaches: Their Nature and Treatment.*

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DEATHS

Carl A. Anderson, Jr., '46–'49 (Arts), March 22, 1953.

Helen Arthur, FAC. '44–'45 (Psychiatry), April 17, 1953.

Marshall Ballard, B.A. '98, G. '98–'99, '02–'03 (Chemistry), March 24, 1953.

Helen Wescott Barbre (Mrs. Clarence), G. '21–'23 (Political Economy), November 25, 1949.

Eva M. Boring, B.S. '39, March 16, 1953.

N. Stanley Bortner, '22–'23 (Engineering), '23–'25, '27–'29, '31–'33 (McCoy), April 8, 1953.

Robert Allen Castleman, '10–'13 (Arts), M.A. '17, PH.D. '21 (Physics), March 14, 1953.

Samuel Wolcott Clausen, M.D. '15, FAC. '16–'17 (Medicine), HOUSE STAFF '15–'16 (Pediatrics), '16–'17 (Medicine), December 29, 1952.

Charles Gilpin Cook, PH.D. '98 (Chemistry), April 17, 1953.

Lester W. Day, '93–'97 (Medicine), '43 (Hygiene), April 14, 1953.

George Edwin Dorsey, B.A. '14, PH.D. '18 (Geology), March 7, 1953.

Ronald W. Gurney, FAC. '48–'49 (Physics), FEL. '49–'50, April 14, 1953.

Bryant Eugene Harrell, M.D. '14, February 12, 1952.

Raymond Hussey, FAC. '14–'17 (Pathology), '37–'43 (Medicine), April 15, 1953.

Muriel Ivimey, M.D. '22, FAC. '23–'24, HOUSE STAFF '22–'24 (Psychiatry), February 26, 1953.

James McIntosh Johnson, PH.D. '08 (Chemistry), FAC. '08–'09 (Medicine), March 2, 1953.

Bernard V. Kelly, FAC. '23–'26 (Ophthalmology), April 14, 1953.

Richard Fulton Kieffer, M.D. '13, FAC. '24–'32 (Surgery), April 1, 1953.

Gustavus A. Korb, '92–'93 (Arts), March 30, 1953.

Warfield Theobald Longcope, B.A. '97, M.D. '01, LL.D. (HON.) '51, PROFESSOR AND DIRECTOR OF THE DEPARTMENT OF MEDICINE '22–'46, PROFESSOR EMERITUS OF MEDICINE '46–'53, April 25, 1953.

Leslie E. Luehrs, FAC. '22–'23 (Psychiatry), HOUSE STAFF '20–'21 (Psychiatry), '21–'23 (Medicine), January 26, 1953.

Mary Coeline Lyons, M.A. '26 (Latin), April 5, 1953.

William Dyre McCurdy, '96–'97 (Arts), December 29, 1952.

John McConkey Mowbray, Jr., '46–'48 (Arts), March 29, 1953.

Claude Leonidas Murphree, '20–'21 (Hygiene), July 26, 1952.

Ethel L. Nixon, FAC. '50–'53, INSTRUCTOR IN PSYCHIATRY, March 7, 1953.

Richard Baxter Norment, Jr., FAC. '21–'23 (Public Health Administration), April 7, 1953.

Rashid S. Oboosy, G. '53 (Biology), April 6, 1953.

Franklin Burche Pedrick, B.A. '09, November 7, 1950.

A Layman Looks At The Professors

Continued from page 17

hundreds of thousands of American decisions. Likewise we boast of the constructive accomplishment of the body of great lawyers who, under the auspices of the Supreme Court during the regime of Chief Justice Hughes, drafted a new code of procedure whereby litigation has ceased to be a sportive contest between skillful practitioners and is becoming a sane means of deciding litigated controversies, in such a way that surprise and unfairness are eliminated and justice may be done.

Almost significant feature of these two forward steps was the cooperation between the practitioners and the professors of the law—that is, between the conservatives and the liberals of the profession. From the very first the practitioners knew they could not get along without the law school men, and perforce invited them to participate.

Incidentally, it has been a keen joy to one observer to witness on occasion the discomfiture of some successful lawyer who was certain he was right on a given point until his eyes were opened by the specialist professor whose research had given him a broader view of the whole subject. Each class supplemented the other's contribution; the lion and the lamb lay down together, and in the end there was achievement and peace and it was difficult to distinguish one creature from the other. The fact is, however, that in this instance the lawyer proved to be the lamb.

The lawyers, of course, did not discover a new method of cooperation. The same thing is being done in big business everywhere in this country today. There is hardly a sizable corporation that does not have a department of research under the guidance of university men whose whole effort is directed toward the discovery of some new thing. And on top of all of this exploration are the numerous and diverse research projects of the United States with vast sums at their disposal, much of which is spent at the seats of the great universities under the direction of scholars acknowledged to be expert in their line. In no part of this extensive area is creative thinking stifled by the dead hand of authority.

Indeed, it is fair to say that the welcoming hand that men of affairs have extended to the professors has softened the rigid attitude that the universities in an earlier period sometimes maintained toward the workaday world. Many remember the experience of the late A. L. R. Dohme, one of the first men to get the degree of doctor of philosophy in chemistry at Johns Hopkins. Immediately thereafter he spent a year or two at a German university, where some problem suggested by industry was given him to solve. Returning, he proposed that Hopkins adopt the same procedure, only to be told by the head of the seminar that he would resign his place rather than suffer the intrusion of business within the academic circle. Today such an attitude would hardly be taken. The lofty adherence to principle maintained by our great universities has ennobled our society; but when it hardens into a technical professional tenet, it loses life and substance and degenerates into sterility.

It ought not to be necessary to recount these well-known facts, but it has to be done to reassure those who still insist that in this country scholars are no longer free. Where lies the area in which they find food for their fears? It is to be found in the study of the institutions and philosophy of government and in the attempts of public

Charles Byron Quincy, G. '85–'86 (Philosophy), May 20, 1945.

William Davis Reynolds, G. '87–'88 (Latin), April 2, 1951.

Ferdinand Schmitter, M.D. '03, June 28, 1950.

Edwin Walker Sigler, C.P.H. '37, M.P.H. '39, June 25, 1950.

William B. Stoddard, PH.D. '97 (Chemistry), February 4, 1953.

Irvin Anthony Stricker, B.S. '44, B.S. '49 (Chemical Engineering), March 2, 1953.

Walter S. Turpin, PH.D. '36 (Mathematics), April 8, 1953.

Edmund Richards Tweedy, Jr., B.A. '52, February 15, 1953.

Harlan Updegraff, G. '04–'05 (History), April 13, 1953.

Edward Power VanKirk, G. '87–'88 (Physics), April 8, 1949.

Claud May Winn, M.D. '11, May 9, 1949.

Warfield Theobald Longcope ➤

ROBERT M. MOTTAR

officials to solve the complex problems of modern society.

The statesmen have had to call in the professors for help. Some professors have volunteered advice, even when it was not asked. And so the teaching profession has gone into politics in a big way and, as always happens in political controversy, some nasty and unjust things have been said about some of them, which they resent, just as any of us would if we were on the receiving end.

In this way the men of learning have added to their troubles. They have taken on not only the people who are opposed to any change, but also the whole mass of citizens who are profoundly interested in public questions, foreign and domestic. And when some highly placed professor gives out a novel statement that seems to them not only wrong but dangerous, they let out an indignant yell that can be heard throughout the land. We may admire the professor for his initiative and his courage, but we need not feel sorry for him. He has got what is coming to him, and perhaps it may do him some good.

COMMUNISM is the subject most full of frightful possibility. No subject is more fascinating and provocative to the student of the art and science of government. To know and to understand the Soviet philosophy is the prime educational need of the present day. It has spread across the world with the rapidity of a forest fire, and it antagonizes our most precious beliefs.

If the teacher can explain it, or justify it, or tell us how to combat it, it would be incredible folly to close our ears. So far, however, no academic solution has been offered, and our fear abides. Congress has passed laws against the monster. State legislatures have passed laws to prevent the entrance of Communists into public office or public school. Two of the strongest State laws are the Feinberg Law of New York and the Ober Law of Maryland, the latter fathered by a distinguished member of the Baltimore bar. The courts have held that these laws do not violate our constitutional freedoms of thought and speech. Our political parties unite in declaring communism the major evil of humanity, and our great generals tell us that all free countries are in mortal danger from the central communist power.

Moreover, we do know—excluding from our thought all doubtful and unproved cases—that Communists have crept into seats of power in our national government and into the faculties of our schools. And there is good reason to believe that the number of those has not yet been told who will refuse in the future to answer legitimate questions as to their past, on the ground that their answers may incriminate them.

So recently as December 12, 1952, the board of trustees of Rutgers University announced its decision to discharge from its faculty, as unfit to teach, two professors who refused to answer questions concerning communist affiliation, put to them by the Senate Subcommittee on Internal Security, on the ground that their answers might incriminate them. The action of the trustees was taken after more than two months' deliberation during which the professors were heard and a special faculty committee was consulted. This committee made the astonishing recommendation that no action should be taken, but the board of trustees, with the full approval of Lewis Webster Jones, the president of the university, severed the accused from the teaching faculty.

SINCE these facts are an open book for all men to read, the academic world should not be aggrieved when cries of anger greet the public statement of some professor who seems to favor the spread of the communist creed. Let me cite one example. During the recent political campaign, several hundred persons gathered at a public dinner to hear a

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A Layman Looks At The Professors

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loose-talking senator, more celebrated for abusive utterance than for accuracy of statement. I was glad I was not among those present, but I must admit that I broke away from a worthwhile discussion at the Hopkins Faculty Club in time to see and hear the man on television. He quoted a brilliant and versatile university professor as making the following statement in a piece written in 1949: "I happen to believe that the Communist party should be granted the freedom of political action and that Communists should be allowed to teach in universities."

The professor felt called upon to reply. He admitted the use of the quoted words, with the qualification, however, that Communists should be allowed to teach only "so long as they do not disqualify themselves by intellectual distortions in the classroom." And he showed that his words were part of a book review in which he strongly condemned Russia for its "total manipulation of thought and belief" and its "appalling campaign to rewrite history, to expurgate philosophy, and to enslave science."

It is obvious that the professor does not believe in communism and does not trust Communists, but when he advocates that universities should give places to a class of men who are known to be expurgators of philosophy, enslavers of science, and distorters of history, he talks such appalling nonsense as to disserve his own cause and to make a mockery of the fine concept of academic freedom.

THE radical professors, I am pleased to note, have become too extreme in this respect to meet the approval of the Supreme Court of the United States, which in recent years has not hesitated to depart from outworn procedures. I like what the court said last year in Adler *vs.* The Board of Education of the City of New York, 342 U. S. 485, when the court upheld the Feinberg Law of the State of New York which forbids employment in the service of the State or in the school system of the State of any person who is a member of any group which teaches or advocates the overthrow of the government of the United States by force or violence. Read what the court said and make your choice between the judges and the radical professors:

"A teacher works in a sensitive area in a schoolroom. There he shapes the attitude of young minds towards the society in which they live. In this, the State has a vital concern. It must preserve the integrity of the schools. That the school authorities have the right and the duty to screen the officials, teachers, and employees as to their fitness to maintain the integrity of the schools as a part of ordered society, cannot be doubted.

"One's associates, past and present, as well as one's conduct, may properly be considered in determining fitness and loyalty. From time immemorial, one's reputation has been determined in part by the company he keeps. In the employment of officials and teachers of the school system, the State may very properly inquire into the company they keep; and we know of no rule, constitutional or otherwise, that prevents the State, when determining the fitness and loyalty of such persons, from considering the organizations and persons with whom they associate."

The Supreme Court does not always agree with me, but when it says something obviously meritorious, I try to give it full publicity.

THE aggressive professors have indeed met severe criticism, but on the whole they have little reason to complain. They have in fact been having a perfectly grand time in the past twenty years. They have sat at the right hand of power and directed its operations. They have written speeches for famous men which the whole world was obliged to read and digest. They have come up with economic policies suited to political expediency, if not to traditional theory.

They have promoted the worthy cause of organized labor by participating in administrative decisions that no court of justice could possibly have rendered; and they have served as representatives of the public on tripartite commissions, although their predilections for one side of the controversy were well known in advance. Indeed, they have ascended to places upon the Supreme Court of the United States during a period when the entire court was being made over, and not a single practicing lawyer of national reputation was chosen—a combination of circumstances unprecedented in the history of our country.

The time has come when laymen should recognize that the professors are not only members of a learned guild but also men of affairs; and on their part, the professors might well give greater heed to their obligations to the workaday world. But let neither class take any step to undermine the lofty place which a noble calling has won.

COLLEGE men in general and trustees or administrators of educational institutions in particular should not relax one jot or tittle their adherence to the principle of academic freedom as laid down by the American Association of University Professors in 1941, and reaffirmed on many occasions since that date. The teacher is entitled to full freedom in research and in the publication of results. The teacher is entitled to freedom in the classroom in discussing his subject. And these freedoms should be protected by permanent and continuous tenure, terminable only for cause after consideration by both a committee of the faculty and the governing board of the institution, and after the accused has had due notice of the charge against him and an opportunity to be heard in his defense with the assistance of counsel of his choosing.

The best educated man I know, who owes nothing to any college, puts the matter this way: "The right to explore freely every avenue of thought, and to express freely whatever seems to us to be the truth, is at the very basis of our hope for making a better world. The history of learning demonstrates that this is fundamental to our universities, which through the ages have not limited themselves to teaching accepted truths,

but have served as culture fields and testing stations where new theories might be offered for searching scrutiny and amendment.

"The frontiers of knowledge will not be easily pushed back if pioneers are forbidden under heavy penalties to cross them. The application of these principles in the past has resulted in inestimable benefit to the intellectual life of Occidental man, since all or nearly all knowledge is tentative, and today's heresy may easily become tomorrow's orthodoxy."

THESE are the legitimate freedoms but, like all freedoms, they are attended by responsibilities. In the professor's bible, the *American Association of University Professors Bulletin*, it is also written, "When he speaks or writes as a citizen, he should be free from institutional censorship or discipline; but his special position in the community imposes special obligations. As a man of learning and an officer, he should remember that the public may judge his profession and his institution by his utterances. Hence he should at all times be accurate, should show respect for the opinions of other citizens, and should make every effort to indicate that he is not an institutional spokesman."

These restraints are laid down by the teachers themselves, but, as we know all too well, they are not always observed; and it is the occasional offender who causes most of the trouble. The eager, venturesome, sincere seeker of the truth does not often stir up wrath; it is he who craves the notoriety of headlines who tries to say the arresting thing in a shocking way, so that all men may know that he moves in intellectual levels far above the ruck of humanity. Then there is the facile speaker or writer who actively unites with partisan groups, makes extravagant arguments, and associates with all sorts and conditions of men, seeking with them not to advance the general good but the interests of a special class.

We are told that it is wrong to judge a man by the company he keeps, but if we could stifle our natural instinct in this respect, we should still know that the teacher I have described is not engaged in scientific research to learn the truth.

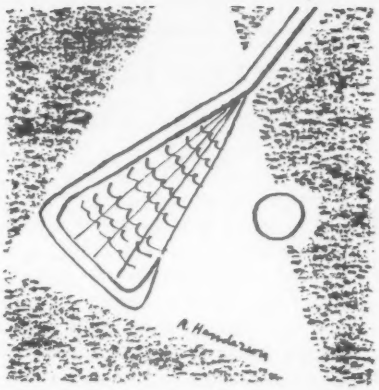
I MAINTAIN that professors are not as free as other men. Like clergymen they are members of a sacred order, devoted to a sacred pursuit, responsible for a sacred institution. It is well-nigh impossible for the common people, for whose benefit the professor and his associates are trustees of great power, to disassociate him from the establishment to which he belongs.

The man on the bus does not say to his companion, "Did you see what Professor Jones said?" but "Did you see what that Hopkins man said in the paper?" This does not mean that the professor must never say anything that could possibly injure his college; but it does mean that he is not free to speak unless he is sure he is right and, if it be a controversial subject laden with dangerous possibilities, unless he is convinced that it is his conscientious duty to speak out.

The responsibility, however, does not lie solely with the speaker. It rests at least in some measure upon his colleagues of the faculty. They come swiftly to his aid when he is unjustly attacked; and I see no reason why they should not respond when his utterances are clearly injurious to his calling and to his institution. The teaching profession insists upon the full measure of their rights; they claim the right to control the subject to be taught and the right to discipline their own members, as well as the right of free speech. Surely they should be willing to take steps, unpleasant and time-consuming though they be, to protect these rights by repudiating the unworthy statements of one of their number.

I do not minimize the difficulty of deciding when to speak and when to keep silent, but if the case is clear, there is no place for the cool, superior attitude that the offender is free to speak his mind and no one in the privileged circle should reply, lest the principle of academic freedom be impaired.

THE ultimate and unavoidable duty, however, rests upon the administration. It must protect its own establishment and maintain its own authority. When the trustees of a university appoint a professor to a teaching position which he is entitled to hold permanently, and when they tell him in effect that he is free to say whatever he pleases, whenever he pleases, they assume a certain responsibility for his utterances. They may not shut him up when he talks what they consider to be nonsense, even dangerous nonsense, but they owe it to



their institution and to the academic world to expose the error of his ways. If the faculty will not act, the administration must.

I am not greatly concerned for the safety of the students. They usually carry their own antidote of skeptical intelligence. But they are entitled at the least to hear the other side of any question. The methods of the open forum are good academic procedure, and if they were used, they would go far to satisfy the critics who are often deeply disturbed by what they see and hear.

Indeed it might be a good thing to give the outside world, including the alumni, a chance to express itself under the auspices of the university. All alumni are not addicted to professional football, and all wisdom does not flow from the campus to the area beyond the college walls. Scholars might even learn something of value from college-bred men of affairs as to what should be taught and how it should be imparted. There is at least a trace of humor in the position, which the professors seem to take, that intelligent boys and girls have the ability to distinguish truth and error in their course of instruction, but after they have graduated and become experienced men and women they are no longer competent to deal with academic problems.

ABOVE all things the governing board should take care to retain the ultimate authority in its own hands. This goes for the right to appoint and to discharge members of the faculty, and to designate the curriculum. I know of no board of trustees which is competent or would undertake to decide these questions without expert guidance. Nevertheless the power should be retained and exercised, since it is not wise to leave

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any important professional field solely in the hands of the profession.

We are all too prone to make decisions in our own interest. Lawyers come to think of the courts in which they practice and the cases they try as their own property, doctors to regard hospitals as set up for their convenience, and professors to believe that the colleges are furnished for the uncontrolled exercise of their special skills. If any proof were needed of the unwisdom of leaving the colleges entirely to the control of the professors, it would be found in the astounding recommendation of the committee of the faculty of Rutgers University, that teachers should be retained in office who refuse to testify for fear that some act on their part will be exposed which may subject them to criminal prosecution.

ALLOW me to add one word of personal explanation. I have felt free to discuss this subject without restraint because freedom is the motto of this place. But I should be deeply chagrined if it were thought that this paper was especially aimed at the Hopkins faculty or the Hopkins board of trustees. Such an action would be foreign to my most cherished beliefs. I was born three years before the Johns Hopkins University, and from my early childhood until today, when it lies just across the road, I have lived and worked in its environs. In my youth it opened to me the windows of the world, and throughout a long life it has been a stimulating and an ennobling influence.

I verily believe that with the exception of the Church itself, it has done more than any other institution to keep clean the blood stream of its community. I see no danger to our community or to our country from its teaching faculty or from its trustees. I say to both of them, carry on and execute your trusts.

Test For Spotting Potential Neurotics

Continued from page 8

Bridger, are using the Gantt test to clarify the effects of morphine. A dog is placed in the camera and subjected to standard conditional reflex tests; once he has learned them, the normal dog will show slight but uniform changes in heart rate with each running of the test. He may then be injected with doses of varying amounts of morphine. Visual observation will reveal a slowing of motor responses, but cardiac and respiratory changes from the normal will give the experimenter a far more delicate and illuminating measure of morphine effects.

The results thus far achieved in the morphine study suggest that the Gantt test may prove one of the best means of assessing the effects of new drugs on animals and humans.

Dr. Gantt has already adapted some tests for human use. Human subjects have, for example, taken part in tests on the effects of high altitudes, vitamin deficiency, and alcohol. In diagnosis at Hopkins Dr. Gantt has used the conditonal reflex test on patients to determine whether their disorders were organic or psychotic in origin.

There was the incident of the man who had gone blind. Doctors could detect no physical defect, but neither could they contest the man's statement that he could not see. They tried the bell-and-pain conditional reflex test on him, the same type as that used on Connie and Draft, and determined the time it took for him to lift his hand from the electrode. They then tried flashing a light before they rang the bell. There was a definite response. The man lifted his hand perceptibily sooner than he had done with the bell only, proving that he could see the light and that his was a hysterical blindness.

In another case, the patient was an old man. At most times he seemed perfectly normal, but certain actions had led to a suspicion of senility. He was given the same test. His hand was placed on an electrode, the experimenters rang a bell and then passed a mild current through the electrode. A normal person will learn to lift his hand from the electrode after two or three runs, but this patient could not form the reflex at all. The sequence was run over and over again, several hundred times, and he *never* learned to lift his hand. Measurement of his heart-rate increase at the time of the shock showed that he could feel it, but his brain deterioration was so great that he was incapable of figuring out the significance of the bell.

In this and in other cases of senility it seems surprising that anyone who could not work out the meaning of such a simple sequence would not, in his daily actions, reveal the great damage which age has caused to the brain. Apparently, however, habit carries him safely through most situations. After finding that a patient could not form the reflex, Dr. Gantt then instructed him to lift his hand when he heard the bell. From that time on the man never failed to respond. Habit enabled him to follow instructions perfectly.

DR. GANTT has used similar techniques in many cases where there was doubt as to the source—organic or psychotic—of illness. He has uncovered cases of hysteria, carbon-monoxide poisoning, tumors, head injuries, and several kinds of cortical degeneration.

The method has a great advantage over such traditional tests as that of IQ. For investigation of brain damage, IQ depends too much on education; memory and habit may carry a patient through most of the tests. In the Gantt test, however, the patient's disorder will be clearly reflected in his reflex and in the delicate measure of heart rate. The delicacy of the measurement also gives this test an advantage, in many cases, over the standard electroencephalograph method of inquiry.

Besides aiding the preliminary diagnosis, the Gantt test seems to be an excellent means for checking the progress of a patient under treatment. One might think that after a person had had one test, such as that combining a bell and electric shock, he would find it easy to form the reflex to any variation of this sequence: preceding the shock by a light,

for example. But actually the normal person shows almost no improvement with repetition, so that variations can be used many times.

DURING the last few years Dr. Gantt has recognized certain patterns of behavior which run through his records. He has lately announced two principles which appear to him to be at the basis of nervous breakdown. They are not concerned with external happenings but seem, rather, to be inherent in the organism itself. One he has termed "schizokinesis," a failure of the organism to work harmoniously; the other he calls "autokinesis," an inner development which springs from an external event but which occurs spontaneously within the organism.

Schizokinesis is a built-in cleavage which works against adjustment to environment, a cleavage between emotional urges and learned urges. Records of the heart rate of dogs reveal, for example, that when a dog is presented with food, the heart rate increases out of proportion to the need for food, and it stays high for an unwarranted length of time. It suggests that the dog retains the emotional response of his predatory ancestors, who had to move fast when they sighted game. The excessive heart stimulation is out of proportion not only to the need for food but also to the energy the dog will use to get hold of the food. Here is one basis for conflict.

In comparing heart rate and motor responses, Dr. Gantt has observed this conflict under many situations. Sometimes the emotional response is such that it actually works against the accomplishment of the task. Humans retain urges which were needed in earlier biologic eras but which are no longer of any use. Dr. Gantt has compared the organism to "a museum of antiques." It is being stirred up by inherited memories which prepare it for acts no longer required.

Further, such emotional excitement is followed by internal secretions, but the expected activity, which might consume them, does not occur. Dr. Gantt questions "whether [the] presence [of these secretions] in the blood has a detrimental effect when they are not disposed of by external activity."

Schizokinesis does not involve the problem of the organism's lack of adjustment to environment (which is the cause of some mental disorders). It is instead the conflict within the organism itself, between emotional reactions and the learned reactions to environment. Often the conflict does not show in the motor reactions; an individual may attain external adaptation, but cardiac responses reveal an emotional maladjustment.

In all of us there are evidences of schizokinesis. But the difference between the normal person and some psychotic patients now appears to be in the severity of the cleavage, the degree of adjustment of which the individual organism is capable.

DR. GANTT'S second principle, "autokinesis," concerns quite an opposite characteristic, a capacity for spontaneous development within the organism. Many experimenters have regarded the organism as a mechanism. Put a certain amount of energy in and you will get an equal amount of energy out. Working on this theory, they have placed laboratory animals under nervous stress, recorded the immediate reactions, and ended the experiment at that point.

In the Pavlovian Laboratory, however, the animals are kept under con-

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A. E. CLAUSEN, BLACK STAR

The Wet Earth: Strong Or Weak?

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in the world still are employed in that part of the research. But now several of the laboratory's evapotranspirometers are being used to measure the disposal of excess water, also.

THUS the Hopkins research at Seabrook Farms is building a foundation on which to base definite conclusions about soil tractionability. From their studies, the scientists should be able to determine how large a proportion of any rainfall will become *capillary* water in the soil and how much will be *excess* moisture. And since it is largely the excess, non-capillary moisture which affects the soil's bearing ability, the results obtained by these researchers should enable others, who study the relationship between soil moisture and other physical properties of soils, to estimate the tractionability of almost any patch of soil on earth.

Given to a farmer or a military commander, such information would be invaluable.

AND there is a further step: long-range predictions. For most parts of the world climatologists know how much precipitation can be expected in any month of the year. The next step is to determine the monthly distribution of potential evapotranspiration. And the final step is to make, on the basis of this information, maps depicting the probable state of the ground around the world, month by month.

Test For Spotting Potential Neurotics

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tinuous observation so that the whole history of a neurosis may be charted. It was in the later history that autokinesis was discovered.

The first step in producing a neurosis artificially is to create stress, as in the bell-and-food conditional-reflex test. Dr. Gantt rings one bell and gives the dog food; he then sounds a different tone and does not follow it with food. Once the dog has learned to differentiate between the two, the experimenter starts making a gradual change in the sound of the tones to bring them closer together. Eventually the dog will not be able to tell them apart.

If he is "strong," he will show anxiety, restlessness, moderate nervousness under the strain. But after a short rest he will recover completely.

If he is "weak," however, the stress will bring on a severe breakdown. He will refuse to eat at all, will show fear of his master and intense fear of the experimental environment. When he hears the signal he will jerk away as if in pain, and will whine and pull back against the leash. In the terminology applied to humans, he will have a complete nervous breakdown.

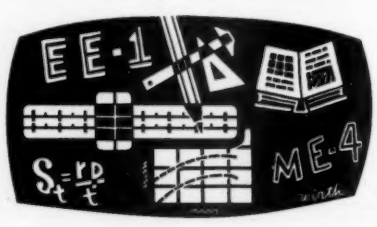
These extreme neurotics are sent to a farm in Virginia for a complete rest. In different surroundings and with masters whom they do not connect with the laboratory, the dogs gradually lose their nervousness and seem to recover, much as does a human who is given a rest cure. After an interval of as much as a year or two, when Dr. Gantt goes down to have a look at the dogs, instantly symptoms of neurosis reappear. This is true with any visitor whom the dogs knew during the period of laboratory stress. (One dog even became nervous when he met for the first time the brother of one of the experimenters, but this certainly would not be true of human patients whose olfactory powers are not so well developed.)

The greatest change comes when the dog is returned to the experimental environment. Some dogs have been left on the farm as long as three years and seem completely recovered, but the return to the laboratory has overwhelming effects. The dog does not evidence the same symptoms that he had during the original breakdown. A whole new set of symptoms appears, much more serious in that they show important organic changes. One dog, Nick, eventually developed (to use the "human" terms) heart trouble, sexual neuroses, peptic ulcer, asthmatic symptoms, and the equivalent of bedwetting in children.

These changes are not caused by external events. They have developed spontaneously within the dog during the rest period. The artificial stress was the immediate cause of the original breakdown, but the later changes—in fact the most profound disorders—have been carried out by the organism itself.

The word which Dr. Gantt now uses to describe this development, autokinesis, "had its *accouchement*," he recalls, "with my friend John Dos Passos. While swimming in the Potomac in July, 1952, after we had discussed, on the previous day, the idea of an inner development on the traces of old experiences and my objections to the word 'spontaneity,' he came up from under a wave with, 'What would you think about "autokinesis" for the thing you have been talking about?' Here was an example of an elaboration on the basis of the previous day's stimulation—of autokinesis."

An extreme example of autokinesis is a black dog named V3, now living in the laboratory kennels. In 1949 he was started on the conditional-reflex tests and almost immediately, under very mild conditions of stress, suffered a breakdown. He was given a long rest but remained neurotic. During the first six months of 1951 he was removed from the kennels for better study of a sexual disorder which had become evident, but all the rest of the time he has been in restful surroundings. Yet the neurosis has advanced to an extraordinary degree. He now closely resembles the cataleptic human patient, who is so unaware of his surroundings that he will not eat but must be tube-fed. Once a week the dog is brought into the experimental room for observation. His behavior is completely stereotyped.



On one such occasion Dr. Gantt took along an observer whom V3 had never seen and would not connect with any part of his experiences. The dog was in a large kennel, playing quietly and easily with another dog. The first thing noted was a marked ambivalence: paradoxical emotions toward Dr. Gantt. When the kennel door opened, the dog rushed out to Dr. Gantt. V3 ran to him, but when Dr. Gantt reached for him the dog seemed terrified, dodged wildly around the corridor, and finally escaped down the hall. There were a number of places he might have sought refuge, but what he did was to rush past the observer and straight into the experimental room. There he waited quietly for Dr. Gantt.

Dr. Gantt lifted him onto a low table, and the dog thereafter remained completely rigid, much as in a cataleptic state. His stiff limbs could be placed in any position, no matter how awkward, and he did not move them. The week before, he had remained stationary for nearly an hour, by which time if the dog was not bored Dr. Gantt was, and V3 was returned to his kennel.

He seemed almost oblivious to pain. When a hypodermic needle was inserted into his skin he did not flinch at all, save in very sensitive parts of the body, such as the muzzle; then he made faint attempts to avoid the needle. His heart rate, Dr. Gantt has found, goes up somewhat with each prick, but the increase is not comparable to the provocation.

The dog's response to sounds was again paradoxical. He did not seem to notice any loud nouse. When Dr. Gantt clapped his hands close to the dog's ear, the observer (who could see that the sound was coming) started each time, but V3, even though not forewarned, remained steady. Yet at a slight noise, such as a scratching against the wall, the dog seemed worried and looked around inquiringly at Dr. Gantt.

A final example of ambivalence was given when Dr. Gantt and the stranger alternately stayed alone with the dog. While the stranger was gone, the dog maintained his rigid position. When Dr. Gantt left the room, however, V3 became most anxious. He moved around on the table, could not be reassured by the stranger, and grew increasingly nervous until Dr. Gantt came back and sat down beside him.

When he was to return to the kennel, the dog repeated his earlier performance.

WERNER WOLFF, BLACK STAR

Dr. Gantt attaches instruments for measuring a dog's stamina as part of vitamin-deficiency research at Johns Hopkins.

He rushed around the hall excitedly, ran up to Dr. Gantt and then twisted away, darted back into the experimental room, and finally made a dash for the kennel.

LONG-TERM studies of such chronic neurotics are the central part of Dr. Gantt's work and are responsible for many of his discoveries. His charts provide experimental proof that cardiac conditions sometimes have their source in psychic disturbances. Neurotic dogs often develop a chronically fast heart rate; Dr. Gantt intends to see whether such a clear physical change as arteriosclerosis may also develop by autokinesis. When he has worked out a technique for taking blood pressure of dogs in the camera (the animals' movement has meant that measurements usually had to be made on anesthetized dogs), he will see whether chronic high blood pressure is not also an organic change in response to stress.

A neurotic dog's violent response to the experimental environment has proved especially interesting. If the rest cure was to be effective, the animal had to be removed completely from anything or anyone connected with the stress experience. As soon as he returned to them, even after a number of years, neurotic symptoms appeared.

Further, any new person who appeared in the old environment would thereafter inspire the same neurotic symptoms. This applied even when there was no new stress; the environment itself had sufficient effect. Dr. Gantt has theorized that here may lie the explanation for the unreasoning and baffling prejudices which people often develop: the innocent cause may have done nothing more than appear in a setting which the person connects with earlier stress.

Conditional reflex figures in the way a nation is prepared psychologically for war. Hitler managed to condition the reflexes of a whole mass of people in such a way that an incident which once evoked compassion, such as the murder of a Jewish merchant, came to evoke only hate and sadism. It is not unreasonable to wonder whether the present "hate-America" campaign may be intended to develop a similar reflex.

FINALLY, a group of studies has been made on sexual reflexes which indicates the tremendous influence of the sexual drive. Cats and dogs prove excellent subjects for such studies, since, unlike humans, they place no taboo on overt expression of the sexual act. One fierce old tomcat amply illustrated that sexual desire was far stronger and of much longer effect than the desire for food or the emotion of anger. The male proved much more single-minded than the female, whose interest in food, for example, was not in the least affected by the sexual act.

In neurotic animals of one type, the sexual drive seems to have more effect than any other influence. Sexual stimulation in these animals (such as the widely known Nick) noticeably reduces anxiety and leaves the dogs calm for several days.

When alcohol was given to the animals, it proved to inhibit the sexual functions in normal dogs in exact proportion to the amount of alcohol. With one type of neurotic dog (V3, for example), a small dose of alcohol proved highly beneficial. A dose which would inhibit the normal dog brought in V3 the first normal sexual responses which he had shown.

The influence of alcohol varies with the individual, and the effects of alcohol are still too little understood for any final conclusions to be drawn. But it seems possible that prescribed doses can be beneficial to persons whose impotency is caused by neurosis. Indeed, a few isolated clinical cases have illustrated its therapeutic value.

IN all of Dr. Gantt's studies a striking feature has been the variation among subjects and the necessity of considering the characteristics of each individual, a factor which often has not been adequately considered in clinical practice. Practitioners must use caution in applying to patients the formulas gained from rigidly controlled laboratory experiments; some clinicians have neglected to take into account the many haphazard influences which affect patients in ordinary life.

The greatest significance of Dr. Gantt's work does not lie in any specific discoveries he has made about the working of the human mind. It lies, rather, in his success in advancing Pavlov's belief that objective scientific methodology can be used in the study of that most complex structure in the universe, the human mind.

BLAKESLEE-LANE

Homewood House

CALENDAR OF EVENTS

May and June at Johns Hopkins

Since this issue went to press several weeks ahead of the period covered in this calendar, there may be last-minute changes and additions in the dates and times of events. It is advisable to confirm them by consulting the daily newspapers or by telephoning the Public Relations Office at Johns Hopkins.

SUMMER SCHOOL

REGISTRATION—Saturday, June 27, from 9 a.m. to 4 p.m. (Remsen Hall). Registration for students enrolling in eight-week courses in biology and chemistry, Friday and Saturday, June 19–20 (Remsen Hall, room 117).

BEGINNING OF INSTRUCTION—Monday, June 29. Instruction in eight-week courses in biology and chemistry will begin on Monday, June 22.

ALUMNI MEETINGS

ANNUAL ENGINEERS' DINNER—Friday, May 8, at 6 p.m. (Levering Hall).

HOMECOMING DAY—Saturday, May 9 (Homewood campus). Campus tours, at 10 a.m. Cornerstone-laying at Shriver Hall, ground-breaking for the new dormitory and engineering hall, at 11 a.m. Buffet luncheon in Gymnasium, at 12 noon. Parade of the classes and of fraternity floats, at 1:30 p.m. Hopkins vs. Navy lacrosse game, at 2:30 p.m. Fraternity Open House, at 4:30 p.m.

REUNION DINNERS—Reunions for classes with numerals ending in 3 or 8. Saturday, May 9, at 6 p.m.

OMICRON DELTA KAPPA LUNCHEON—Sunday, May 10, at 12:30 p.m. (Levering Hall).

JOHNS HOPKINS ORCHESTRA CONCERT—Sunday, May 10, at 4 p.m. (Levering Hall).

DELMARVA ASSOCIATION—Friday, May 15, at 6 p.m. (DuPont Country Club, Wilmington) The speakers will be Alan M. Chesney, dean of the Medical School, and Robert H. Roy, professor of industrial engineering and assistant dean of the Engineering School.

NEW YORK CLUB—Thursday, May 21, at 6 p.m. (Johns Hopkins Club, 106 West 56th St.)

PITTSBURGH ALUMNI ASSOCIATION—Monday, May 25, at 7 p.m. (Royal York Apartments). The speaker will be Lynn Poole, producer of the Johns Hopkins Science Review.

NORTHERN OHIO ALUMNI ASSOCIATION—Friday, May 29, at 8 p.m. (University Club, Cleveland). The speakers will be Osmar Steinwald, director of alumni relations, and Lynn Poole, producer of the Johns Hopkins Science Review.

NURSING SCHOOL

GRADUATION—Monday, May 25, at 3 p.m. (Phipps Garden). The speaker will be J. Douglas Colman, vice president of the Hospital and the University.

ALUMNAE HOMECOMING—Monday and Tuesday, May 25–26. ANNUAL BANQUET—Monday, May 25, at 7 p.m. (Sheraton Belvedere Hotel). Russell A. Nelson, director of the Hospital, will preside and the speaker will be Warfield M. Firor, associate professor of surgery.

TELEVISION

THE JOHNS HOPKINS SCIENCE REVIEW may be seen on the following television stations:

Ames: WOI	Johnstown: WJAC
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* In these cities, broadcast time is Wednesday at 8 p.m., EDT. In other cities, consult newspapers or call the stations for day and time of program.

MEDICAL MEETINGS

SOCIETY OF HYGIENE—Monday, May 11, at 7:15 p.m. (School of Hygiene Auditorium).

ALPHA OMEGA ALPHA LECTURE—Friday, May 15, at 5 p.m. (Hurd Hall). Chester S. Keefer, Wade Professor of Medicine at Washington University, will speak on "A Century of Bacterial Endocarditis."

FOURTH ANNUAL INSTITUTE ON THE MINISTRY TO THE SICK—June 8–19 (New Auditorium). Sponsored by the Visiting Clergy Service of the Hospital in cooperation with the Council of Churches.

VARSITY SPORTS

LACROSSE—Johns Hopkins vs. ARMY, Saturday, May 2 (away); NAVY, Saturday, May 9 (Homewood, at 2:30 p.m.); MARYLAND, Saturday, May 16 (away); MT. WASHINGTON, Saturday, May 23 (Homewood, at 2:30 p.m.).

TENNIS—Johns Hopkins vs. WESTERN MARYLAND, Saturday, May 2 (Homewood, at 3 p.m.); TOWSON TEACHERS, Thursday, May 7 (Homewood, at 3 p.m.); CATHOLIC, Saturday, May 9 (Homewood, at 3 p.m.); LOYOLA, Wednesday, May 13 (away); MASON-DIXON CHAMPIONSHIPS, Saturday, May 16 (away).

BASEBALL—Johns Hopkins vs. DELAWARE, Saturday, May 2 (away); TOWSON TEACHERS, Wednesday, May 6 (away); AMERICAN, Thursday, May 7 (Homewood, at 3 p.m.); WESTERN MARYLAND, Saturday, May 9 (Homewood, at 12 noon); LOYOLA, Wednesday, May 13 (away); MASON-DIXON CHAMPIONSHIPS, Saturday, May 16.

GOLF—Johns Hopkins vs. DELAWARE, Friday, May 1 (Mt. Pleasant Golf Course, at 1:30 p.m.); GETTYSBURG, Wednesday, May 6 (Mt. Pleasant Golf Course, at 1:30 p.m.); LOYOLA, Friday, May 8 (Mt. Pleasant Golf Course, at 1:30 p.m.); MASON-DIXON TOURNAMENT, Monday, May 11 (Mt. Pleasant Golf Course); JUNIATA, Friday, May 15 (Mt. Pleasant Golf Course, at 1:30 p.m.); WESTERN MARYLAND INVITATIONAL TOURNAMENT, Saturday, May 16 (away).

TRACK—Johns Hopkins vs. SWARTHMORE, Saturday, May 2 (Homewood, at 2 p.m.); LOYOLA, Thursday, May 7 (Homewood, at 4:15 p.m.); MASON-DIXON CHAMPIONSHIPS, Friday and Saturday, May 15–16 (away).

DRAMA

TOM SAWYER—A performance of the Children's Educational Theater. Saturday, May 16, at 10:30 a.m. and 3 p.m. (Baltimore Museum of Art); special matinee for school children and their teachers, Friday, May 15, at 4 p.m. (Baltimore Museum of Art). Admission: children, 35¢; adults, 80¢.

SPECIAL EVENTS

GROUND-BREAKING CEREMONIES—Saturday, May 9, at 11 a.m. (Homewood campus). Ceremonies will include ground-breaking for a new dormitory and a new engineering building and the laying of the cornerstone of Shriver Hall.

NATIONAL HOSPITAL DAY OPEN HOUSE—Tuesday, May 12, throughout the Johns Hopkins Hospital. Special exercises at 2:30 p.m. (Hurd Hall).

BROOKHAVEN VISITORS' DAY—Saturday, May 16. A tour of Brookhaven National Laboratory, Long Island, New York, including views of the cosmotron, the cyclotron, the "hot laboratory," and the meteorology station, with special exhibits devoted to biological and medical research and to radiation protection devices.

ANNUAL TURTLE DERBY—Friday, May 29, at 2:30 p.m. (North Tennis Court, the Johns Hopkins Hospital).

COMMENCEMENT—Tuesday, June 9, at 10 a.m. (Gilman Hall Plaza). The speaker will be Walter Gifford, former American Ambassador to the Court of St. James.

NEXT MONTH

Franco Rasetti, professor of physics at Johns Hopkins, is an eminent nuclear physicist who played a leading role in the research which eventually led to the development of the atomic bomb. But until last month, few people realized that he is also one of the world's leading authorities on paleontology, even though he has never had a formal course in the subject and, indeed, looked for his first fossil—as a hobby—in 1940. He still collects fossils only in his spare time, as a sideline, but he has been so thorough and successful that, at the April meeting of the National Academy of Sciences, he received the Walcott Medal, one of the Academy's top awards, for his achievements. Next month *The Johns Hopkins Magazine* tells his fascinating story.

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A Score Settled . . .

Sgt. Ronald E. Rosser, U.S. Army
Medal of Honor

WHEN HIS BROTHER was killed in Korea, Sergeant Rosser re-enlisted. Several months later he, too, was in Korea—pinned down on a hill near Pongil-li by Red fire. He saw it cutting up the platoon. Suddenly he jumped to his feet. Alone, and armed only with a carbine and a grenade, he charged a Red bunker and cleaned it out. He dropped into a trench and dispatched five more enemies. Twice, under heavy fire, he returned for more ammunition, then renewed his attack. His one-man fight was furious—and short. It ended with 13 enemy dead, the American platoon saved, and a score settled for Sergeant Ronald Rosser.

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